

Hydrogen Cost Goal

In 2005, the Department of Energy developed a new hydrogen cost goal and methodology. The previous hydrogen cost goal of \$1.50/gasoline gallon equivalent (gge, delivered, untaxed, 2001\$, by 2010) was developed in 2002, and was based on hydrogen produced from distributed natural gas reforming. The strategy was that hydrogen should cost no more than gasoline on an equivalent energy basis. Since one kilogram of hydrogen contains approximately the same energy as one gallon of gasoline, the hydrogen cost goal was set at \$1.50/kg (or \$1.50/gge) to be equivalent to the untaxed cost of gasoline.

The new hydrogen cost goal of \$2.00-3.00/gge (delivered, untaxed, 2005\$, by 2015) is independent of the pathway used to produce and deliver hydrogen. In addition, the new methodology accounts for the energy efficiency of the gasoline hybrid vehicle and the fuel cell vehicle on a cost-per-mile basis. The cost goal was derived using the National Academy of Sciences (NAS) fuel-efficiency improvement factors and the Energy Information Administration (EIA) “High A” gasoline price projection for 2015. In the High A case, the U.S. economy is more vulnerable to limited oil supplies from foreign sources due to the increasing world and U.S. oil demand, resulting in higher oil prices. This case is more representative of the economic and energy security environment in which hydrogen must compete.

The new hydrogen target is in alignment with the Hydrogen Fuel Initiative goal of enabling an industry commercialization decision by 2015, and will be used to guide the Department’s hydrogen and fuel cell research and development activities.